

# **MISSOURI WILDLIFE HARVEST AND POPULATION STATUS REPORT**

## **WILD TURKEY – 2009**

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### **2009 Spring Turkey Season**

Harvest for the 21-day regular spring turkey season, April 20 through May 10, was 41,830, 3.7% lower than last year. Top harvest counties were Franklin with 915, Texas with 839 and St. Clair with 678. Counties where hunters checked more than 500 turkeys included Benton, Bollinger, Callaway, Camden, Cedar, Dent, Douglas, Franklin, Gasconade, Greene, Howell, Jefferson, Johnson, Laclede, Macon, Maries, Miller, Osage, Pettis, Polk, St. Clair, Ste. Genevieve, Texas, Webster and Wright Counties. Only two of these counties are north of the Missouri River, compared to 5 years ago when northern Missouri had 24 counties in the 500-or-better category, and 3 years ago when there were still 14. This dramatic drop reflects the effect of wet and/or cold weather during the production period, April through June. The severe Easter-week freeze of 2007 and record rainfall in 2008 translated to fewer turkeys for the 2009 season. This situation will persist into the 2010 season, particularly in northern Missouri where poult production was low again in 2009.

Despite low recruitment of poults in northern Missouri, populations and harvest continue to be relatively strong. Regional harvest totals were 6,311 in the MDC Central region, 6,129 in the Southwest region, 5,820 in the Northwest region, 5,671 in the Ozarks region, 5,472 in the Northeast region, 4,801 in the Kansas City region, 4,197 in the Southeast region and 3,430 in the St. Louis region.

Hunters 15 and younger checked 2,883 turkeys during the youth spring turkey season April 4 and 5. This brought the overall spring turkey harvest to 44,713, 3.5% below last year, and the lowest harvest in the era of the 3-week season, which began in 1998 (Figure 1).

Spring turkey hunting in Missouri is a major recreational activity with more than 500,000 days spent afield annually during the youth and regular seasons. Total permit sales this spring were down, however, at around 112,000 sold, the lowest number since 1999 (Figure 1). With over 44,000 free landowner permits distributed, Missouri could have as many as 150,000 turkey hunters in the field during the spring seasons.

### **2009 Fall Firearms Turkey Season**

Fall turkey hunting participation typically tracks summer poult production, so with improved poult production in 2009 (up 7% from 2008), we expected harvest to increase. The fall 2009 harvest of 8,351 turkeys by 15,680 resident and 215 nonresident permit holders was

up 13% over last year (Figure 2). Top counties, with 200 or more harvested, were Greene, Webster, Wright, Bollinger and Franklin. North of the Missouri River, the only county to make the top 25 in harvest was Ray. This north-to-south harvest differential matches the poult production pattern—fair to poor in the north, and good in the south (Table 1).

### **2008-09 Archery Turkey Season**

Although firearms turkey hunting has declined, archery harvest remains vigorous. For the last season (September 15, 2008 through January 15, 2009), hunters killed 2,484 turkeys, 16.8% above the average for the previous 10 years.

### **2009 Turkey Production**

The 2009 statewide poult to hen ratio of 1.15 is 7.9% above last year, but 10.8%, 29.9% and 37.4% below the 5-, 10- and 49-year averages, respectively (Table 1). Our volunteer observers saw few broods in June, which was expected because of the cool, wet and late spring. Across turkey production regions, poult to hen ratios ranged from a low of 0.8 in the Northwest and Ozark Border to more than 1.5 in the Mississippi Lowlands and Ozarks East (Table 1).

### **Population Index**

Since 1983, volunteer archers have recorded the number of wild turkeys, deer, and furbearers seen while bow hunting during October and November. On a statewide basis, the number of wild turkey sightings per 1,000 hours of bow hunting in 2008 was 377 and it ranged from a low of 237 in the southeast to a high of 651 in the northwest. The statewide average of 377 is 26% below the previous 17-year average of 510.

### **Restoration**

Turkey translocation has not occurred since the winter of 2006-07 when 100 birds were released in the Mississippi Lowlands region. Missouri's primary efforts to establish populations ended in 1987 after several thousand wild turkeys had been translocated to areas identified as having suitable habitat, but no turkeys. The recent attempts since 2000 to move wild turkeys into southwest and southeast Missouri where turkeys already existed were marginally successful. Because of the high cost of translocation and the marginal potential for long-term population increase, translocation of turkeys is a very low priority for the Department of Conservation.

### **Regulation changes**

Turkey hunting regulations have been constant for several years.

### **Hunter Harvest and Opinion Survey**

MDC conducts a post-season survey of randomly-selected permit holders to estimate

hunting activity and hunter opinions. For the 2009 spring hunting survey 6,475 hunters participated. Thirty-nine percent of hunters chose “good” or “excellent” to describe their turkey hunting experience, down from 42% in 2008. Hunters were asked if interference by other hunters was a problem, and 85% reported “very little” or “no” “problem.” The lack of interference stems partly from the fact that 83% of respondents hunted on private land. Respondents who reported “very little” or “no” “problem” made up 92% of the hunters who only hunted private land and 69% of hunters who only hunted public land. About 62% of hunters chose “very satisfied” or “somewhat satisfied” in a question about spring turkey season regulations.

The 2009 spring turkey hunter survey revealed that support for all day hunting continues to be strong. Attitudes toward all-day hunting continue to be favorable with 64% of respondents supporting all-day hunting during the youth weekend and 52% supporting the idea of all-day hunting for the regular season. Youth hunters favored all-day hunting during the youth weekend (88% support) and the idea of all-day hunting during the regular season (67%). Youth took advantage of the all-day opportunity with 42% hunting after 1:00 p.m. on Saturday.

The amount of gobbling is very important to spring turkey hunting quality. For example, for survey respondents who reported an “excellent” turkey hunting experience in 2009, gobbling activity for the season was rated high by most hunters (“excellent” by 29% of respondents and “good” by 40% of respondents). With turkey abundance declining in some parts of the state because of poor reproduction, we expected gobbling activity to decline. For all hunters, gobbling activity for the season was rated as “good” or “excellent” by 27% of respondents, “fair” by 32% of respondents and “poor” by 40% of respondents.

## **Gobbling Study**

Over the past three years several hundred dedicated volunteers have collected data from mid-March to mid-May. Preliminary data analysis shows our opening days of turkey hunting (April 16, 2007; April 21, 2008; April 20, 2009) are catching gobblers after the peak in gobbling, which on average occurs in mid-April (Figure 3). Although this might be disappointing to hunters, the season timing is a compromise between the short-term interest of hunters and what’s best for turkeys. The season is timed to coincide with the onset of incubation by hens, usually starting around the 3rd week in April, ensuring that most hens have bred and many are on nests, protected from harvest. These birds are the source of the poults that replenish the population each year, so their protection is very important. Gobblers are more vulnerable in early April, and a later season ensures that we don’t overharvest mature gobblers—this is in the long-term interest of hunters.

From year-to-year, gobbling has been both similar and different. Gobbling patterns in 2007 and 2009 were similar, but very different from 2008, the year spring arrived late. The 2007 and 2009 gobbling patterns are probably closest to “average” conditions. The late spring in 2008 appeared to shift gobbling two weeks later in April. For hunters, 2008 was a mixed bag—the peaks in gobbling were much lower than in 2007 and 2009, but the late spring resulted in more gobbling during the hunting season, weeks 6-8. Our most recent memory is of the 2009 season. Gobbleteers heard as much gobbling as in 2007 during mid-April (the 5th week of the study), but then 2009 gobbling went into a freefall during the hunting season, with a slight bounce up during the last week of the season (Figure 3).

From north-to-south spring arrives at different times in Missouri and this affects turkey breeding behavior and gobbling. Ozark hunters complain that turkeys are “gobbled out” before the season opens. To assess north-to-south differences in gobbling we divided the state into a northern gobbling study region containing MDC’s Northwest and Northeast regions, a middle group containing Kansas City, Central and St. Louis regions and a southern group containing the Southwest, Ozark and Southeast regions (Figure 4).

Northern regions experienced much higher gobbling rates than did other parts of the state, with peaks in 2007 and 2009 of almost 70 gobbles per 20 minute observation during mid-April (Figure 5). Gobbling in the north seems to increase rapidly in early April, reaching a peak in mid-April, and with the exception of 2008, dropping off quickly as the hunting season commences. In 2009 gobbling bounced back nicely from the rain-soaked 2nd week of the season (week 7).

Middle regions experienced gobbling rates about 45% lower than the northern regions, peaking around 40 gobbles per 20 minute observation in 2007 and 2009 (Figure 5). The ups and downs in gobbling were similar between the middle and northern regions, with distinct, high peaks in 2007 and 2009, and lower gobbling activity in 2008.

Southern regions experienced the lowest gobbling rates, about 50% lower than the northern regions, peaking under 35 gobbles per 20 minute observation in 2007 and 2009 (Figure 5). Gobbling patterns in the southern regions best fit the classic ‘two-peaks’ phenomenon observed in past research, but surprisingly the 2nd peaks were higher than the 1st peaks. The early spring in 2007 resulted in a rapid increase in gobbling, whereas the late spring in 2008 delayed gobbling about two weeks. This resulted in a substantial amount of gobbling during the 2008 hunting season.

This study is made possible by hundreds of volunteers and the George Clark Missouri State Chapter of the National Wild Turkey Federation (NWTf). For more information go to <http://www.mdc.mo.gov/hunt/turkey/gobblecount.htm>.

## **Acknowledgements**

The success of Missouri’s turkey management program depends on contributions from many individuals. Thanks to the many citizen volunteers and MDC staff who collect field data for the brood survey, archery survey and the gobbling study. The various turkey reports the Department produces are an MDC team effort with assistance from the following individuals: Jamey Decoske coordinates the brood survey and gobbling study; Ron Reitz, Martha McCrary, David Collins, Angela Hammond and the rest of the survey staff conduct hunter surveys; Julie Fleming, Sherry Gao, Greg Jones, Tom Kulowiec, Fran Lowry, Margie Mitchell, Giancarlo Rhodes and Joel Sartwell manage and analyze data; and Linda Truesdell prepares final documents. Missouri’s comprehensive approach to turkey management is made possible by this team effort.

### Missouri Spring Turkey Harvest and Permit Sales 1960 -- 2009

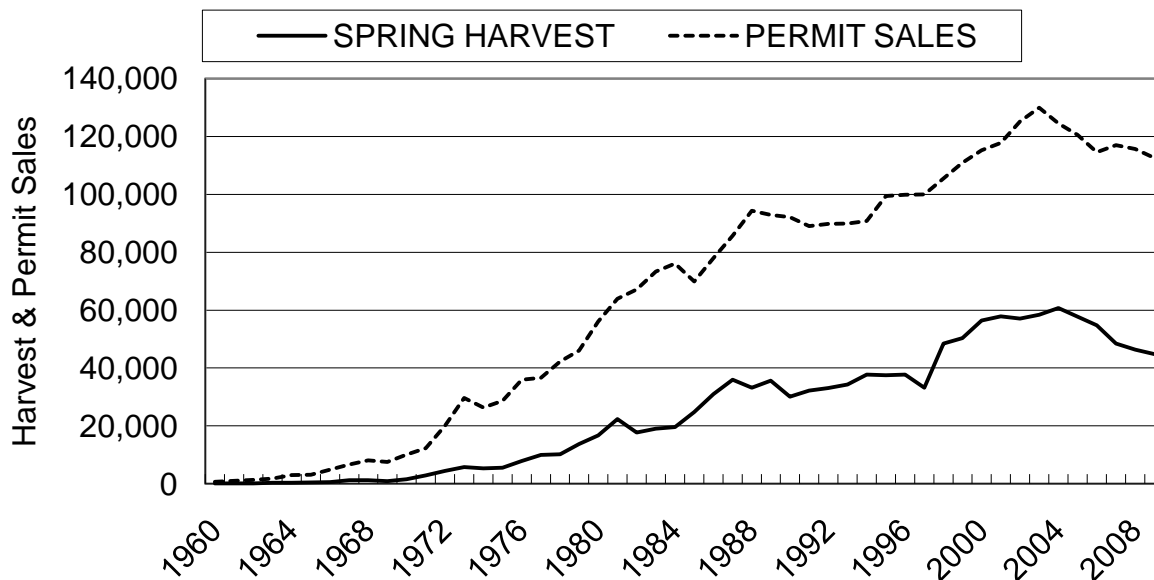


Figure 1. Missouri spring turkey season harvest and permit sales, 1960--2009. Trends partially reflect turkey abundance, but also various changes in regulations, including expansion from a 2- to 3-week season in 1998 and creation of a youth weekend in 2001.

### Missouri Fall Firearms Turkey Harvest and Permit Sales 1978 -- 2009

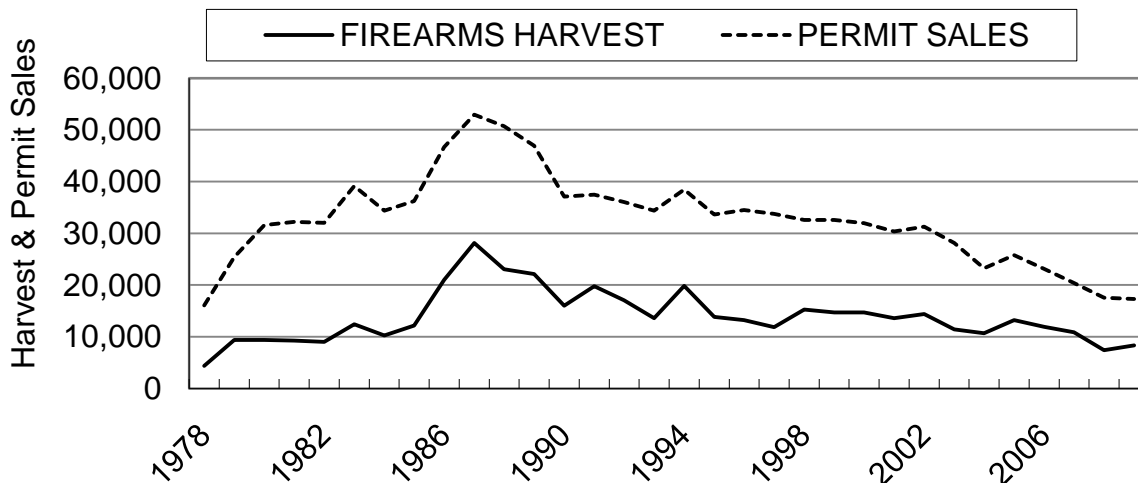
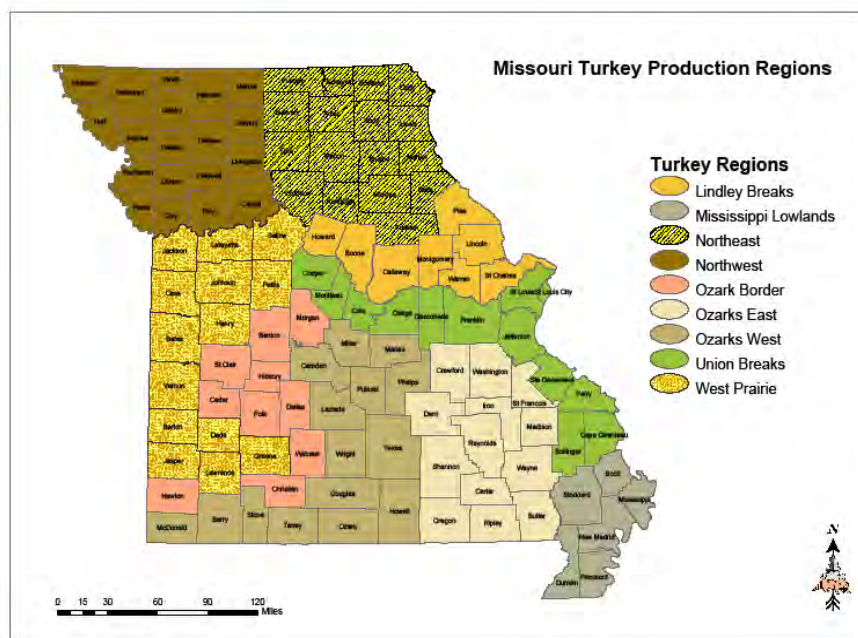


Figure 2. Missouri fall firearms turkey harvest and permit sales, 1978 -- 2009. Trends partially reflect turkey abundance, but also various changes in regulations, including a bag limit increase from 1 to 2 in 1986, expansion of the season from 14 to 31 days in 2005 and other changes in permits requirements.

Table 1. Index (ratio of poults per hen) of Missouri turkey production during June-August, 2009, compared to previous years. Index is based on field observations of hens and poults by volunteers and MDC staff. For each interval value, the % change indicates how the 2009 index compares to the previous year, or the average for periodic intervals. The survey began in 1959, so the “Previous All Years” includes 1959-2008.

Production Region <sup>1</sup>	2009 Index	2-year (2008-2009) % change	5-year (2004-2008) % change	10-year (1999-2008) % change	Previous All Years %Change
Northwest	0.80	-16.43	-33.41	-48.63	-54.84
Northeast	1.04	-7.07	-20.36	-38.49	-48.73
Lindley Breaks	1.25	16.19	-0.66	-27.63	-39.10
Union Breaks	1.31	-0.99	-4.72	-19.88	-25.65
Mississippi Lowlands	1.58	47.94	-19.11	-42.67	-24.99
Ozarks East	1.64	26.19	0.71	-10.97	-17.59
Ozarks West	1.21	19.27	-6.06	-26.09	-30.27
Ozark Border	0.82	-10.61	-32.39	-50.75	-55.98
West Prairie	1.07	47.93	4.03	-23.63	-44.75
STATEWIDE	1.15	7.94	-10.83	-29.94	-37.40

<sup>1</sup> Production region map below.



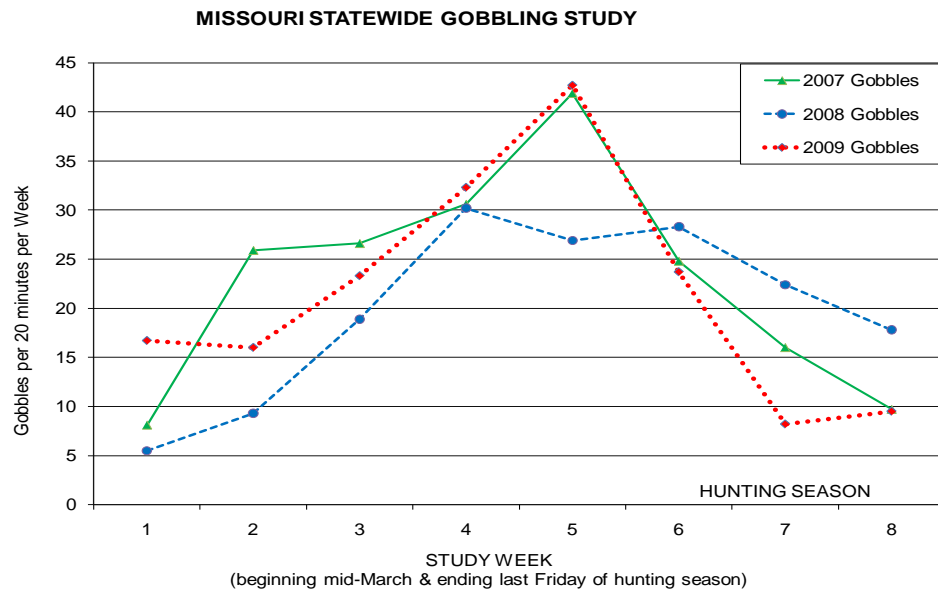


Figure 3. Estimated number of gobbles heard in Missouri per 20-minute observation per week from mid-March to mid-May. Regular hunting seasons began April 16, 2007 (week 5), April 21, 2008 (week 6) and April 20, 2009 (week 6).

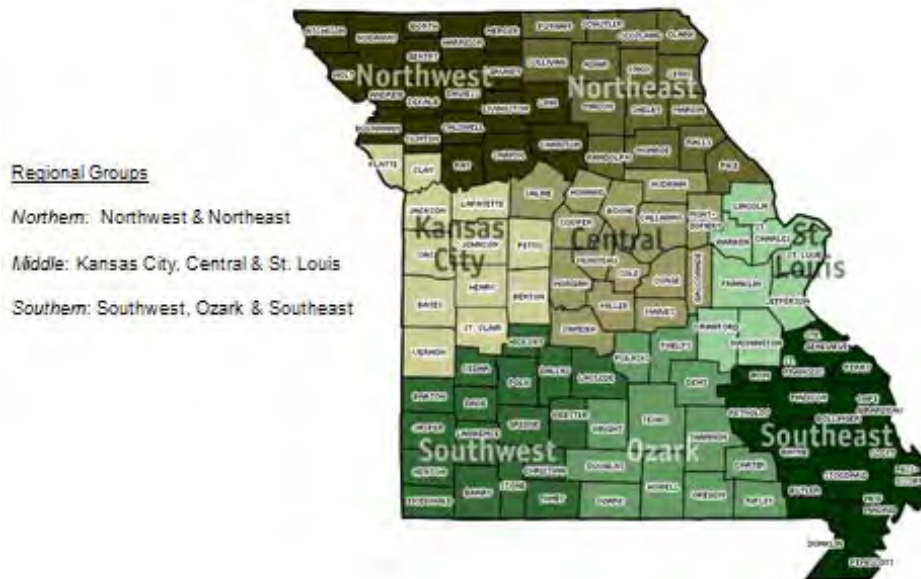


Figure 4. Gobble study data are grouped geographically among MDC regions from south to north. Southern group includes Southeast, Ozark and Southwest regions, middle group includes Kansas City, Central and St. Louis regions and north group includes Northeast and Northwest regions.

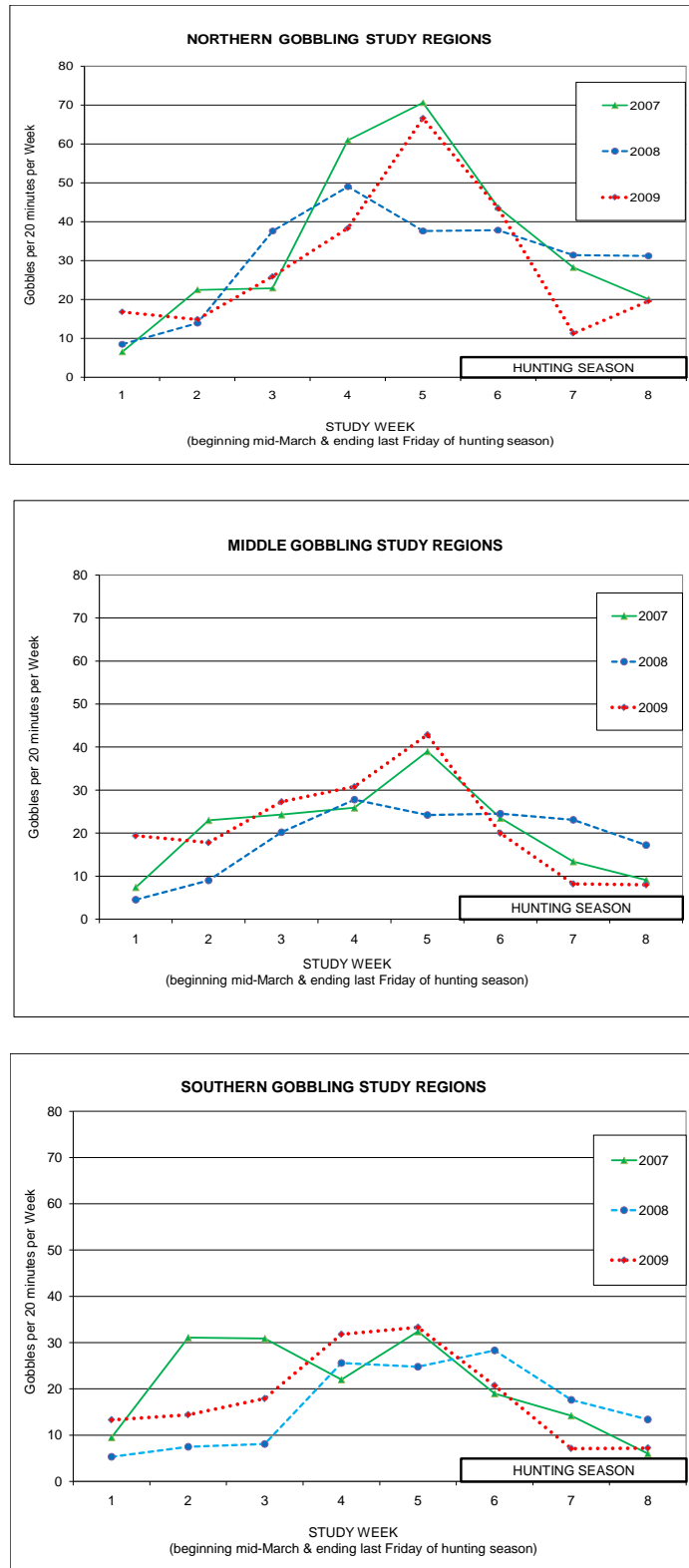


Figure 5. Estimated number of gobblers heard in Missouri per 20-minute observation per week from mid-March to mid-May. Regular hunting seasons began April 16, 2007 (week 5), April 21, 2008 (week 6) and April 20, 2009 (week 6). Regional groupings are depicted in Figure 4.